

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 6-23 are presented in the present application. Claims 6-10, 12, and 13 are amended and Claims 14-23 are added by the present amendment.

Claims 6-8 and 10-12 were rejected under 35 U.S.C. 103(a) as unpatentable over Kauffman et al. (U.S. Patent No. 5,209,076, hereinafter "Kauffman") in view of Jayanth et al. (U.S. Patent Application Publication No. 2002/0141877, hereinafter "Jayanth"); and Claims 9 and 13 were rejected under 35 U.S.C. 103(a) as unpatentable over Kauffman and Jayanth in view of Klapper et al. (U.S. Patent No. 6,448,982, hereinafter "Klapper").

Figure 2 is amended to show an arrow between elements 31 and 38 and another arrow between elements 33 and 38. The amendment to the figure is supported by the specification, for example, at page 9, lines 9-11, in which is explained that the second comparison 38 is using the measured parameters 31, the manually entered parameters 32, and the reference parameters 33. No new subject matter has been added.

Independent Claims 6 and 10 have been amended to more clearly recite that a first comparison compares operating parameters with other parameters and the operating parameters are calculated by a design program. The claim amendments find support in Figure 2 and its corresponding description in the specification. Further, the claim amendments find support in the specification, for example, at page 8, lines 10-20, page 9, lines 4-8, and page 10, lines 11-17. No new subject matter has been added.

The outstanding rejections of the claims on the merits are respectfully traversed for the following reasons.

Briefly recapitulating, amended Claim 6 is directed to a method for monitoring a reciprocating compressor. The method includes, *inter alia*, reading operating parameters of the reciprocating compressor that are calculated by a design program. A first comparison is performed between measured parameters, manually entered parameters, reference parameters and the operating parameters. A second comparison is performed between the measured parameters, the manually entered parameters and the reference parameters. An anomaly is detected based on results of the first and second comparisons. Independent Claim 10, although different from Claim 6, has been amended similar to Claim 6.

In a non-limiting example, amended Figure 2 shows the measured parameters 31, the manually entered parameters 32, the reference parameters 33 and the operating parameters produced by element 36. All these parameters are used during a first comparison 37 while the measured parameters 31, the manually entered parameters 32 and the reference parameters 33 are used during a second comparison 38.

Turning to the applied art, Kauffman discloses a control system for preventing compressor damage in a refrigeration system. Kauffman discloses in the abstract that “[i]f a sensed condition is outside of a safety range and remains there for a time out period, a [sic] alarm condition is indicated and the device generates an alarm signal and shuts down the compressor.” Relying on this portion of Kauffman, the outstanding Office Action asserts that Kauffman uses measured parameters (i.e., the sensed

condition), manually entered parameters (i.e., safety range), and reference parameters (i.e., time out periods).

Regarding the time out periods of Kauffman, it is noted that Claims 6 and 10 recite that the reference parameters (asserted to correspond to the time out periods) relate “to the operating state of the reciprocating compressor.” Thus, it is not clear how a “time out period,” which is manually introduced by an operator of the compressor in Kauffman and which is an arbitrary value, is related to the operating state of the reciprocating compressor. In other words, a state of a compressor is unrelated to time out periods.

In addition, it is not clear how the “sensed condition” and/or the “safety range” of Kauffman are “compared” to the “time out periods” as recited by Claims 6 and 10. While the “sensed condition” of Kauffman may be compared to the “safety range” to identify whether the compressor is operating normally, the “time out period” is merely an arbitrary waiting time during which the sensed condition is compared to the safety range. However, the “time out period” of Kauffman is not compared to the “sensed condition” and/or the “safety range” as asserted by the outstanding Office Action.

Furthermore, a claimed second comparison is using the measured parameters, the manually entered parameters and the reference parameters. The outstanding Office Action does not identify the second comparison in Kauffman and Applicant respectfully submits that Kauffman is silent about a second comparison being performed based on three different parameters.

On the contrary, the flow charts presented by Kauffman in Figures 3 to 9 show that each comparison block (for example 124 and 132 in Figure 3 or 144 in Figure 4) compares a single measured parameter (current, pressure, etc.) to a single predetermined high or low limit and not multiple parameters from four or three different classes as recited by the independent claims.

In addition, the outstanding Office Action recognizes in the last four lines of the paragraph bridging pages 3 and 4 that Kauffman “fails to substantially and specifically disclose a database of previously stored anomalies.”

The outstanding Office Action relies on Jayanth for disclosing such a database. However, Jayanth does not cure the deficiencies of Kauffman discussed above with regard to Claims 6 and 10.

Accordingly, it is respectfully submitted that independent Claims 6 and 10 and each of the claims depending therefrom patentably distinguish over Kauffman and Jayanth, either alone or in combination.

Dependent Claims 7 and 11 recite, *inter alia*, obtaining data from design specifications of the reciprocating compressor. The outstanding Office Action asserts at page 6, numbered paragraph 5, that Kauffman discloses this feature when stating in column 2, lines 36-40 that a device can be configured “to obtain representative samples of the operating characteristics” of compressors and the “data can be collected over an extended time period to indicate any trends that may be present.”

Applicant respectfully submits that collecting data from one or more compressors while operating as in Kauffman is not equivalent to obtaining design specifications of the

compressors. The design specifications exist independent of whether the compressors operate or not and the design specifications are not obtained from measuring parameters of the operating compressors.

At least for this reason, it is believed that dependent Claims 7 and 11 further distinguish over the applied art.

Dependent Claims 8 and 12 recite "receiving the results of the third comparison as inputs for the design program for the reciprocating compressor, wherein outputs of this design program comprises the operating parameters." The outstanding Office Action considers that by plotting a graph of sensed conditions over time is the equivalent to applying a design program. Applicant respectfully submits that by plotting a graph of the sensed conditions over time, as suggested by the outstanding Office Action, is not the same as a design program outputting the claimed operating parameters.

Thus, it is respectfully submitted the dependent Claims 8 and 12 further distinguish over the applied art.

Regarding dependent Claims 9 and 13, Klapper has been considered but does not cure the deficiencies of Kauffman discussed above with regard to independent Claims 6 and 10. Thus, it is believed that these claims patentably distinguish over the applied art.

New Claims 14-17 depend from independent Claims 6 and 10 and find support in Figure 2. New Claims 18-23 are similar to Claims 6-9, 14, and 15, respectively but are written to set forth the invention in a varying scope. No new matter has been added.

As independent Claim 18 recites features similar to the novel features of Claim 6, it is believed that Claims 18-23 are also in condition for allowance.

Accordingly, in light of the above discussion and in view of the enclosed amendments, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested. If, however, there are any remaining unresolved issues that would prevent the issuance of the Notice of Allowance, the Examiner is urged to contact the undersigned at (540) 361-2601 in order to expedite prosecution of this application.

Respectfully submitted,
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